EPIDEMIOLOGY AND CONTROL OF GONORRHOEA IN POLAND*

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The control of venereal disease in Poland is based on the following fundamental principles:

- (1) The prevention and treatment of venereal diseases is a task of the State Health Service.
- (2) It is the duty of every citizen who has reasonable grounds to believe that he is infected with, or knows that he is suffering from, one of the venereal diseases, to submit to medical examination and, if found to be suffering from venereal disease, to submit to the required treatment as well as to the post-treatment follow-up. He should also give the interviewer all assistance in tracing the source of infection and other contacts.
- (3) Every patient suffering from venereal disease has a right to free treatment by the State, but if he prefers he may be treated at his own expense by a private physician of his own choice.

The essential elements of this system are:

- (1) Universal, obligatory, free treatment;
- (2) Case-finding and case-reporting;
- (3) Contact investigation;
- (4) Health education.

Legal Basis of V.D. Control in Poland

The decree of 16 April, 1946, concerning the control of venereal disease in Poland outlined the principles of gonorrhoea control. It defined the tasks, rights, and duties of the health service; the duties and rights of private physicians; the duties and rights of patients and persons suspected of being infected; and the administrative and epidemiological responsibilities of the health service, with the principles of prevention, treatment and post-treatment follow-up of gonorrhoea and syphilis.

Organization of the V.D. and Skin Departments of the National Health Service

There is a "V.D. and Skin Dispensary" in each of the seventeen provinces and five large cities,† where data based on the individual case reports are collected, and these data are subsequently forwarded to the Ministry of Health. Administratively, these dispensaries form part of the Health Department of each Provincial National Council. They supervise the medical work of all skin and venereal disease out-patient and in-patient institutions (dispensaries, consulting centres, dermatological wards, etc.), except the Medical Academy clinics, and they implement the epidemiological policy of the Provincial Health Department. They also organize postgraduate medical training and they make certain that the best and most modern treatment is given in their own clinics.

Treatment Facilities

OUT-PATIENT CLINICS.—The fundamental unit for V.D. control in Poland is the Venereal Disease Consulting Centre (V.D.C.C.). There is one of these centres in each urban district (corresponding to 40,000–60,000 inhabitants), and each rural district, and also in certain places of special significance, e.g. the large health resorts. The V.D.C.C. is headed by a physician, usually a specialist in dermatology. When no dermatologist is available in a given territory, a general practitioner or a specialist in another specialty may be named as head, after completing a post-graduate training course in V.D. and dermatology. The situation in this respect is still unsatisfactory, as 133 (62.4 per cent.) of the 431

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[†] Poland is divided into seventeen provinces, and five large cities also have provincial status. Each province or city is sub-divided into a certain number of districts.

V.D.C.C.s in the country are headed by nonspecialist physicians, eleven are run by "Feltchers", and 25 are staffed by nurses alone.

The auxiliary staff includes nurses, a social nurse, a social worker, and a registering officer. In the smaller centres one person may combine the duties of social nurse and registering officer, or the nurse may take over all three functions. At present there is an acute scarcity of trained social nurses. The single training centre for social workers (in Cracow) after training more than a dozen such workers, had to stop because of lack of candidates.

Diagnosis.—The V.D.C.C.s provide a bacteriological diagnosis of gonorrhoea in males and females. Smears are stained with methylene blue and/or by Gram's method. A diagnosis of gonorrhoea in the female should not be made without positive urethral and cervical Gram-stained smears. V.D.C.C.s which are adequately equipped use cultures, but this method is not a routine. If it is difficult to diagnose the disease in the female contact of a patient suffering from gonorrhoea, treatment is admissible on the basis of epidemiological evidence. A serological test for syphilis (S.T.S.) should be performed in each case of gonorrhoea, but too often this is not possible.

Treatment.—The V.D.C.C.s are equipped to provide modern treatment of gonorrhoea. Routine treatment schedules are based on penicillin, including the long-acting variety. For the treatment of complicated or penicillin-resistant cases, other antibiotics may be obtained from the provincial dispensary. Regulations for the treatment of gonorrhoea, including the treatment schedule, methods of treatment, and post-treatment follow-up, are laid down by the Ministry of Health, and are obligatory for all health service clinics, except those belonging to the Medical Academy. A specialist may adopt some other method of treatment or dosage schedule, but only with the consent of the provincial specialist or provincial dispensary.

Case-finding and Contact Investigation.—Case-finding is based on contact investigation, health education, and, in very rare instances, on epidemiological surveys, c.g. group examinations in kindergartens, etc.

Every physician and senior "Feltcher" who diagnoses a case of venereal disease is required by law to interview the patient to obtain information about his contacts. This interview may be carried out by a physician, trained special nurse, or contact investigator, but at present, because of the lack of trained contact investigators, the patient is usually interviewed by the doctor.

The contacts located are asked either by letter or personally by a social nurse to report for examination or to submit a certificate of examination completed by a private specialist. If the contact does not report for examination after two requests the local police are asked to bring the suspect for examination.

Table I shows the percentage of patients reporting contacts to interviewers for the period 1955 to 1959; in none of those years did it reach 100 per cent.

Table I

AVERAGE PERCENTAGES OF GONORRHOEA PATIENTS REPORTING CONTACTS IN POLAND, 1955–1959

Year	1955	1956	1957	1958	1959
Percentage	81	79	63	68	73

Table II shows the response of patients to contact interviewing, the efficiency of the V.D.C.C. staff in locating and bringing to examination the contacts elicited by the interviewer, and the percentage of cases found as a result of the interviewer's work. These percentages are rather low because the physician may not have enough time to persuade the patient to name his contacts and often lacks the knowledge, skill, or even willingness to interview a patient properly because there is often inadequate provision for privacy in contact interviewing; and because the patients are reluctant to name their contacts.

TABLE II

CONTACTS OF PATIENTS SUFFERING FROM GONORRHOEA IN POLAND IN 1957, BY PROVINCE OR CITY

Province or City	Percentage Patients reporting Contacts	Percentage Contacts Examined of Those Reported	Percentage Contacts Found In- fected of Those Reported
Poland	63	87	67
Warsaw (city) Warsaw (province) Bydgoszcz Poznan (city) Poznan (province) Lodz (province) Lodz (province) Lodz (province) Lodz (province) Sielos Lublin Glaztyn Gdansk Koszalin Gzczecin Zielona Gora Wroclaw (city) Wroclaw (province) Opole Katowice (province)	44 111 65 103 62 73 68 125 68 63 39 82 78 93 61 30 80 58	68 101 94 63 103 ——————————————————————————————————	54 48 67 60 71 ———————————————————————————————————
Krakow (city) Krakow (province) Rzeszow	30 84 78	92 85	46 68 72

Specialists increasingly believe that these defects are major obstacles to effective V.D. control and that very often, in spite of the greatest efforts of the physician or trained nurse, contact investigation fails. For the same reasons we in Poland could not use successfully the special techniques which American authors claim to be successful, e.g. the "cluster technique".

As a result of an intensive programme of V.D. education which was carried out as part of the anti-V.D. campaign in 1948 and 1949, there was a remarkable increase in the number of cases brought to treatment. This seems to confirm the generally accepted belief that health education is a most important element in V.D. control, and we are inclined to believe that, although it is a long-term policy, health education may be the most promising weapon in the eradication of venereal diseases in the future.

The waning interest in the problem of the venereal diseases which has been observed in other countries, is also unfortunately manifest in Poland. False interpretation of the excellent results of the anti-V.D. campaign in 1948-49 brought about a slackening of health education activity in 1951-1956, but matters have improved since 1957 although the position is still unsatisfactory. Knowledge of the elements of personal hygiene is at present very uneven and, on an average, low; people still neglect to come to consultation in spite of undoubted clinical evidence of the disease, and too often patients refuse to come for examination, lapse from treatment, and refuse to indicate their contacts.

Group examinations are made only when an environmental spread of infection is suspected, as may sometimes occur in child-care establishments.

The regulations of the Ministry of Health require the examination of every pregnant woman for venereal diseases, which includes serological tests for syphilis, but in practice, this examination is not always performed because its importance is not appreciated by the women concerned or because of poor co-operation on the part of medical personnel.

Prophylaxis.—This being an indispensable part of the work of the V.D.C.C., the physicians are expected to take an active part in directing and managing V.D. education, to undertake the examination of suspected groups where necessary, and to organize contact investigation.

Professional Advice and Instruction.—Specialists working in the provincial V.D.C.C.s are ready to advise the non-specialist health centres in their districts. The district health centre may provide

out-patient treatment, and if a general practitioner takes over the treatment he is obliged to use the regulation methods and dosage schedules. The district health centres are not usually equipped with special diagnostic equipment and is not obliged to perform other special functions such as contact investigation.

There are also rural health centres where a physician visits on certain days each week, and his function in V.D. control is like that of the V.D.C.C. The rural centres are managed by "Feltchers", who have the right to diagnose gonorrhoea and, if authorised by a physician, to treat uncomplicated gonorrhoea on the doctor's advice.

A specialist physician practising privately is also entitled to diagnose and treat a patient by himself. He is obliged, like the rural centres, to report his cases and their contacts, to keep his patients under observation, and report those who default from treatment or follow-up.

The General Practitioner.—In principle, the diploma of a physician entitles him to diagnose and treat venereal diseases; thus de jure he has the same rights and duties as a specialist in venereology. This situation sometimes leads to complications, because the general physicians very often neglect case and contact reporting, especially as regards gonorrhoea.

IN-PATIENT TREATMENT.—The in-patient skin clinics are teaching establishments, of which there are ten dependent on the medical academies. The professional staff and their equipment ensure the highest level of diagnostic and medical skill as well as of professional advice. The dermatological wards of the provincial and city hospitals, in principle should be headed by top grade specialists, but in fact, some are still headed by lower grade specialists.

Epidemiology

During the Nazi occupation of Poland and immediately after the end of hostilities, the incidence of venereal diseases increased considerably, especially where mass migration of the inhabitants took place.

No accurate figures concerning the incidence of venereal diseases for the first years after the war exist, but a vigorous anti-V.D. campaign was organized and it is possible to estimate the incidence for those years on the basis of the number of V.D.

patients treated in clinics and hospitals. The data for 1947-59 are given in Table III, those from 1949 onwards being compiled from individual case reports.

TABLE III
INCIDENCE OF GONORRHOEA PER 10,000 POPULATION, 1947-59

Year	Rate per 10,000
1947	24.0
1948	18.0
1949	13.0
1950	12.64
1951	13.42
1952	14.20
1953	14.59
1954	14.34
1955	14.76
1956	12.50
1957	9.89
1958	8.42
1959	8.30

The figures in Table III show the influence of the activity of the health service after the introduction of penicillin and the great socio-economic changes which occurred in post-war Poland. The remarkable fall in notified cases of gonorrhoea between 1948 and 1950 probably represents fairly accurately the epidemiological situation at that time. This fall resulted from the antivenereal campaign and the stabilization of life in comparison with the stormy post-war period. After 1950, certain other additional factors reduced the reliability of these data. Factors favouring the further decrease in incidence are:

- (1) Antivenereal campaign carried out in 1948-1950.
- (2) Widespread use of penicillin in different diseases ("penicillinization").
- (3) Intensified action against hooliganism and prostitution (1955-1957).
 - (4) Increased health education since 1956.
- (5) Wider use of individual prophylaxis (condoms) in connexion with an intensified campaign of family planning since 1956.

Factors favouring an increased incidence of V.D. are:

- (1) Waning interest of the public and to a certain degree of the health authorities in V.D. control during 1951-1956.
- (2) Increased industrialization with the formation of large workers' centres where young people of both sexes live in conditions facilitating sexual promiscuity.
- (3) Increased consumption of alcohol between 1950 and 1955.
- (4) Increase in prostitution, which had been inconsiderable before 1950.

Other factors impairing the reliability of the official data by reducing the number of reported cases are:

- (1) Incomplete case-reporting by general physicians, who because of the simplicity of modern therapy, are treating gonorrhoea more often than before.
 - (2) A lower level of contact-finding at present.

The sex ratio for gonorrhoea is constantly changing. The male: female ratio in 1950 was 1.9:1, and increased in 1959 to 2.4:1. The sex ratio for manifest early syphilis in these years being 0.9:1 and 1.4:1. These figures suggest the increasing importance of prostitution in the spread of venereal diseases in Poland in recent years.

Another explanation is that gynaecologists often treat their female patients without diagnosing gonorrhoea. This is supported by the results of a study in Szczecin where microscopic evidence of gonorrhoea was found in 1·2 per cent. of women seeking medical advice in a gynaecological dispensary because of vaginal discharge.

The result of mass treatment of women with penicillin has been demonstrated in a study carried out in an isolated fishery base where numerous cases of gonorrhoea had been found previously. The plan was to inject every woman between the ages of 16 and 50, under the pretext of antityphoid vaccination, with 600,000 units procaine penicillin, 0.5 g. streptomycin, and a half dose of antityphoid vaccine. Men who were not infected with gonorrhoea were given only one injection of antityphoid vaccine. In fact only 95 per cent. of the group was treated, but during the next 3 months the incidence of gonorrhoea in men fell from 65 to 25, and in women from 18 to 9 cases per month. This improvement has naturally not lasted long.

To gain more knowledge about the morbidity of gonorrhoea special epidemiological studies have been undertaken; Tables IV, V, and VI (overleaf) show the results of a study made in 1950 and repeated in 1957 in an industrio-agricultural province with an average morbidity rate of gonorrhoea. There is no significant difference in the findings for the two years.

Another study was undertaken in 1956 in an area with a high incidence of gonorrhoea to gain more information about infected female contacts (Table VII, overleaf). The investigation was undertaken during three summer months in two large sea-ports (Gdansk and Szczecin), two industrial centres (Lódz and Walbryzych), and one spa (Jelenia Góra). Table VII shows that the most frequent source of infection is the group of women aged 20 to 30; the group aged 16 to 20 is smaller than almost all other groups

TABLE IV
CASES OF GONORRHOEA PER 10,000 POPULATION IN THE URBAN DISTRICTS OF PROVINCE, BY AGE GROUP AND SEX

Age	Group	15–19	20–24	25–29	30–34	35–39	40-44	45-49	50-54	Over 54	Over 20
Famalas	Total	12.3	36-2	30.7	18.5	15.5	5·1	3.5	1.3	0	12.4
Females	Unmarried Married	_	36·4 36·1	48·0 22·9	37·1 12·0	21·9 8·0	7·8 3·8	1·7 2·9	0 2·3	0	19·9 8·7
Males	Total	15.6	90·3	83.6	53.3	29.7	16.4	12.4	2·1	3.5	36·1
Males	Unmarried Married	_	90·6 89·1	122·1 55·9	111·4 42·6	100·0 22·1	40·0 14·3	30·0 10·9	0·8 4·3	10·0 2·6	71·9 22·1

Table V cases of gonorrhoea per 10,000 population in the rural districts of province, by age group and sex

Age	Group	15–19	20-24	25–29	30–34	35–39	40-44	45–49	50-54	Over 54	Over 20
Females	Total	5.6	11.5	8.8	6.7	3.6	2.6	0.5	1.2	0	3.9
remales	Unmarried Married	=	13·7 7·5	14·8 5·8	16·0 4·1	5·7 3·0	5·5 1·8	1·0 0·3	0 1·8	0	6·5 2·6
Males	Total	2.5	24.7	23.5	13.7	7.5	3.6	2.3	2.6	0.8	8.4
Males	Unmarried Married	=	28·4 7·7	29·4 16·1	25·0 10·7	20·0 5·5	5·0 3·5	6·7 1·9	15·0 1·6	2·5 0·6	20·3 4·5

TABLE VI GONORRHOEA RATES PER 10,000 POPULATION BY SEX

Sex	Chief Cities	Other Urban Districts	Rural Districts
Males	41·6	32·6	8·4
Females	8·5	14·8	3·9

in this study. As a rule they do not work or earn only low wages (most of the latter being manual

workers), and most of them live in the town centre.

Some epidemiological data have been furnished by enquiries carried out in a few cities and districts in 1957. Questionnaires were answered anonymously by patients suffering from syphilis and/or gonorrhoea (Tables VII, IX, X, XI).

Although Table VIII does not indicate that prostitution plays an important role in the spread of

TABLE VII
RESULTS OF EXAMINATION OF CONTACTS OF PATIENTS IN SELECTED LOCALITIES (PERCENTAGES)

Locality		A	ge		Civil	Status	Inco	me Gro	ıp*	Туре о	f Work*	Place	of Resid	ence*
Locality	16-20	20–25	26–30	Over 30	Un- married	Mar- ried	Unoc- cupied	Low	Aver- age	Man- ual	Intel- lectual	Centre of Town	Out- skirts	Sub- urbs
Gdansk Szczecin Lodz Walbrzych Jelenia Gora	15 19 15 16 10	26 39 30 37 38	33 23 20 31 38	26 19 35 16 14	59 63 64 53 76	41 39 36 47 24	36 23 19 15 16	58 70 77 75 67	6 7 4 10 17	87 84 88 83 85	13 16 12 17 15	64 38 63 63 86	12 61 35 14 10	24 1 2 23 4

^{*} Unmarried women only.

Table VIII
SOURCES OF GONORRHOEAL INFECTION (PERCENTAGE), 1957

	Source of Infection	Casual Acquaintance	Prostitute	Regular Consort	Girl Friend	Wife	Others
Locality	Warsaw Lodz Province of Katowice Province of Krakow Province of Gdansk	74·5 50·7 64·8 63·8 72·1	12·7 19·1 6·6 16·6 6·6	4·8 8·4 6·6 5·6 8·2	4·8 11·3 11·0 5·6 8·2	1·6 1·1 5·6 	1·6 10·5 9·9 2·8 4·9
	Whole of Poland	61·1	12.6	6.9	7.8	3.8	7.8

venereal diseases, the examination of prostitutes performed in 1957 in several areas with a high incidence of V.D. (Table IX) has proved that the percentage of infected prostitutes is very high. In the majority of infected prostitutes gonorrhoea was diagnosed; only a few suffered from syphilis.

TABLE IX

PERCENTAGE VENEREAL INFECTION AMONG PROSTITUTES IN SELECTED AREAS, 1957

Locality							Per cent
Warsaw							52
Lodz							37
Katowice							40
Krakow							51
Gdansk	•••	•••	• • •	• • •	•••		57
Whole of P	oland						55

Table X (below) shows data about the level of education of patients, a factor of importance in choosing methods of health education. Table XI gives particulars of cases in which the patient claimed to have become infected while under the influence of alcohol.

TABLE XI

PATIENTS INFECTED WHILE UNDER THE INFLUENCE OF ALCOHOL, IN SELECTED LOCALITIES, 1957

		Lo	cality			Per cent.
Warsaw					 	60.3
Lodz				•••	 	60.8
Katowice	• • •				 	53.8
Krakow	• • •				 	72.2
Gdansk		•••	• • •	•••	 	65.6
Whole of P	oland				 	58.8

The problem of venereal disease amongst teenagers in Poland has not so far been a serious one. Table XII, which shows the incidence of V.D. in the age group 15 to 19 for the years 1956 to 1959, indicates a fall of 24 per cent. in teenagers, as against a fall of 30 per cent. in adults. The downward trend for teenagers seems more likely to be reliable as

young people tend to seek free medical care from the public health service, where all V.D. patients are reported, whereas adults are often treated by private physicians and not all cases are reported.

TABLE XII
INCIDENCE OF GONORRHOEA IN PATIENTS AGED 15-19
YEARS, BY SEX, 1956-59

Year -	Se	Sex					
rear -	Females	Males	Total				
1956	1.338	1,417	2,755				
1957	1,338 942 916	1,374	2,316				
1958	916	1,187	2.103				
1959	874	1,148	2.022				

The incidence of gonorrhoea in teenagers in Warsaw (1,088,000 inhabitants) and in Cracow (460,600 inhabitants) is shown in Table XIII. The numerous schools in these two cities and the consequent congregation of young people would lead one to expect a high morbidity rate in teenagers but the data do not bear this out. In both cities the percentage of young students among those infected is strikingly low.

TABLE XIII
INCIDENCE OF GONORRHOEA IN PATIENTS AGED 15 TO
19 YEARS IN WARSAW AND KRAKOW, 1956-59

Year	Warsaw* -	Krakow				
1 car	warsaw* -	Male	Female	Total		
1956	84 234	10	6	16		
1957	234	16	5	21		
1958	162	8	10	18		
1959	162 149†	10	12	22		

^{*} The figures for Warsaw include persons who resided outside the city but came in daily to work or to study.

These data do not justify any general conclusions and must be confirmed by further epidemiological studies as they seem to indicate differences in the nature of the problem in these two cities.

TABLE X

LEVEL OF EDUCATION OF PATIENTS (PERCENTAGE) IN SELECTED AREAS, 1957

	Educational Level	Illiterate	Elementary			Further
			5 Years	7 Years	Secondary	Education
Locality	Warsaw		7·9 16·6 22·9 19·8 18·0	39·7 44·8 37·2 26·2 46·0	41·3 35·8 32·3 48·2 31·2	11·1 2·8 7·6 5·8 3·2
	Whole of Poland	0.4	14.9	37.4	38.9	5.9

[†] The male:female ratio in 1959 was 3:1. The total comprised 17 patients aged 14-17, 25 aged 18, and 66 aged 19 years.

Summary

The epidemiological situation of the venereal diseases in Poland as reflected by official statistics is not alarming. The numbers of reported cases of gonorrhoea are steadily declining. However, it is recognized that the true incidence of this disease is not known and that the actual decline is probably less than that reflected by official data.

The underestimation of the importance of gonorrhoea by the public and by some members of the medical profession might result in the recurrence of an epidemic similar to that observed after World War II.

La lutte contre la blennorragie en la Pologne Résumé

La situation épidémiologique en la Pologne, d'après les rapports officiels, n'est pas dangereuse. Le nombre de cas enregistrés de blennorragie décroît constamment, mais nous nous rendons parfaitement compte que nous ne savons jamais quel pourcentage de malades a été mis en évidence dans les rapports; nous craignons que, s'il baisse de plus en plus, le décroissement réel ne soit moindre que celui cité ci-dessus. Les malades et—hélas—les médecins ne prennent pas toujours la blennorragie au sérieux, ce qui peut amener à un certain moment à un accroissement notable, comme nous avons pu l'observer il y a quelques années après la seconde guerre mondiale.